4 VIDEO IMAGE/STREAM CAPTURE

4.1 Purpose

Video tape analysis involves the application of various techniques to improve the visual appearances of an image recorded on video tape.

4.2 Equipment and Materials

The following equipment and materials may be used

- Video cassette players (consumer, professional and/or security/time-lapse)
- Multiplexers
- Time-base correctors
- Audio and/or video cables
- Computer hardware and software
- Various printers with appropriate output media
- Media to store images or video streams

4.3 Procedures

4.3.1 The evidence will be received in accordance with Division evidence handling procedures (see section 20 of the Quality Manual).

4.3.2 Any device to prevent overwriting or recording will be enabled, i.e. removing safety tabs from a video cassette. Any items removed will be retained and returned with the evidence.

4.3.3 If possible and if necessary, the examiner will determine if the evidence is the original recording or a duplicate. This can be determined by investigator's description or other examinations.

4.3.4 The examiner will determine, if possible, the model and settings (recording format and speed) used to produce the evidence. If not possible, visual inspection or electronic analysis will be used to determine which available video player can provide the best output signal. If an adequate output signal cannot be produced, the case investigator will be contacted and the submission of the original recording device will be requested.

4.3.5 The area of interest on the evidential recording will be located using the selected equipment. The area of interest will be noted by using the time/date stamp on the recording, the player counter information, or other identifying information.

Note: Any action or equipment that may damage the original recording is inappropriate and should not be used. Such actions may include, but are not limited to, maintaining the recording in the "pause" mode for extended periods, unnecessarily repeated playback of the recording, and proximity to strong magnetic fields.

4.3.6 The appropriate playback speed for image capture will be determined. A time base corrector (TBC) may be used to stabilize the signal.

4.3.7 The area of interest will be captured in either still image or video stream form with the use of frame grabber hardware and software selected at the examiner's discretion. Notes of settings will be recorded on any frame grabber software that allows for adjustment of the input signal, i.e. brightness, contrast, hue. The image(s) and/or video stream(s) will be stored to a .TIFF file format or other lossless compression format using the case numbers as the file name.

4.3.8 Analysis will continue with &5.3 or 6.3.

4.4 Calibration

Calibration procedures and scheduled maintenance for all equipment will be done in accordance with manufacturers' recommendations and recorded in the maintenance log located in the appropriate laboratory.

4.5 Calculations

Numerous mathematical calculations are involved in the digitization process. Most of these calculations are intrinsic to the software and are considered proprietary information.

4.6 Limitations

It must be recognized that the greatest limitation of the enhancement process is the quality of the submitted evidence.

4.7 Safety

Care should be taken to avoid circuit overload and injury when using electrical equipment. Gloves should be worn to handle any potentially bio-hazardous evidence.

4.8 References

Owner's Manuals and User's Manuals should be referenced for equipment operating instructions.

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